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SMITHSONIAN INSTITUTION

Fiscal Year 1979

Justification of Estimates of Appropriations
To the Office of Management and Budget



ADMINISTRATIVELY CONFIDENTIAL

(Information not to be released until after the President's
Budget is submitted to the Congress in January 1978.)

September 1977

SMITHSONIAN INSTITUTION
SUMMARY AND HIGHLIGHTS OF THE FY 1979 ZERO-BASE BUDGET

The accompanying proposed FY 1979 zero-base budget includes "Decision Package Sets" for the Salaries and Expenses, Smithsonian Science Information Exchange, Museum Programs and Related Research (Special Foreign Currency), and Construction Appropriation accounts. The following is a brief explanation of the process used in developing the budget request and summarizes major areas of emphasis. The ranking of decision packages in the prescribed format is also attached and a description of the rankings is provided.

Zero-Base Budget Process

The development of the Smithsonian's FY 1979 proposed zero-base budget followed the organizational structure of the Institution. Based on overall guidance from the Secretary, each of the Institution's approximately 60 units (museums, bureaus or offices) that receives an annual allocation of funds reviewed its programs rigorously and developed individual zero-base budgets at the various resource levels. It should be noted that the larger units such as the National Museum of Natural History developed their budgets beginning at the departmental level. Thus, we were able to achieve participation of managers at all levels in the planning, budgeting, and evaluation process.

The unit budgets next were submitted to the appropriate Assistant Secretary or Director of Support Activities for critical review and analysis and consolidation into individual zero-base budget decision package sets by "activity." These activity budgets consist of Science, History and Art, Public Service, Museum Programs, Administration, Protection, and Plant and Printing and Photographic Services. Decision packages were also developed for the component parts of Construction: Restoration and Renovation of Buildings, Construction and Improvements, National Zoological Park, and the Museum Support Center Planning.

The integration of the Salaries and Expenses and Construction budgets was accomplished by the Executive Committee of the Institution which consists of the Assistant Secretaries, Director of Support Activities, the Treasurer, and representatives of the Secretary's office. Essentially, the Executive Committee subjected each budget presentation to careful analysis on a program-by-program basis during a series of meetings. Acting under the general guidance from the Secretary, the Committee developed zero-based budgets at the various resource levels for Salaries and Expenses and Construction.

The Smithsonian Science Information Exchange (SSIE) was prepared solely by SSIE managers. Although SSIE's budget is included as part of our overall presentation, the special circumstances under which that budget was developed should be borne in mind, especially in regard to ranking.

The General Accounting Office Report GGD-77-43 on the Smithsonian Institution's "Need to Strengthen Financial Accountability to the Congress" recommended that the Board of Regents dissolve the SSIE and conduct its operations as part of the Smithsonian Institution's regular organizational structure. In its action on the Fiscal Year 1978 appropriation, the Senate Appropriation Committee in its Report 95-276 stated that efforts should begin to effect the transition of the Exchange to Federal status within the Smithsonian or another appropriate Federal agency. Selection of the most appropriate alternative awaits the results of discussions with the Office of Management and Budget and other interested organizations.

The final step in the process involved overall review of the proposed FY 1979 budget and the ranking of decision packages by the Secretary. The following section summarizes the FY 1979 budget request.

FY 1979 Proposed Budget

The following table displays each appropriation at the minimum, intermediate, current, and improvement levels. The FY 1978 appropriation amounts are shown for comparison purposes. Permanent full-time positions are indicated for the Salaries and Expenses Appropriation.

<u>Appropriation</u>	FY 1978		FY 1979 Budget Request							
	<u>Appropriation</u>		<u>Minimum Level</u>		<u>Intermediate Level</u>		<u>Current Level</u>		<u>Improvement Level</u>	
	FTP		FTP		FTP		FTP		FTP	
	Pos	(\$000)	Pos	(\$000)	Pos	(\$000)	Pos	(\$000)	Pos	(\$000)
Salaries & Expenses	3,428	\$88,238	3,148	\$79,238	3,414	\$87,149	3,442	\$88,238	3,510	\$92,648
Construction		5,250		3,125		4,350		7,475		8,470
SSIE		1,777		1,615		1,655		1,817		2,858
Total		\$95,265		\$83,978		\$93,154		\$97,530		\$103,976

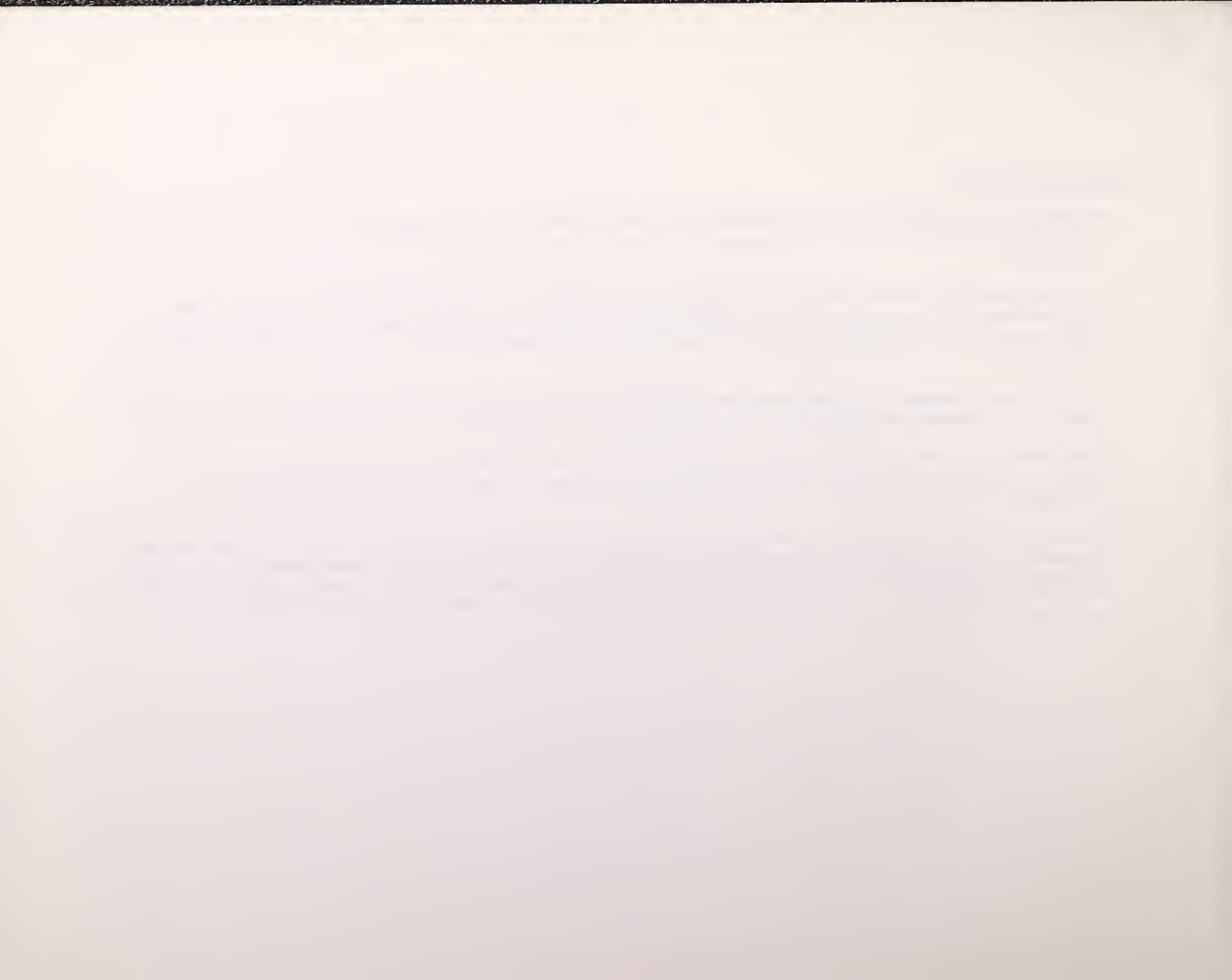
This table points out that the margins between the minimum and current levels and the current and improvement levels are not wide. The heterogeneous nature of the Institution, the great variety of its programs and its public service responsibilities mitigated against drastic reductions without posing unrealistic alternatives such as museum closings on certain weekdays. Concomitantly, Smithsonian managers developed the budget prudently, attempting to accommodate highest priority needs within the FY 1978 appropriated resource level. Within the Salaries and Expenses appropriation, for example, funding adjustments totalling some \$1.6 million have been made to allow emphasis on certain programs considered more vital than others. Proposed improvement level increases which total only some \$8.7 million over the amount appropriated for FY 1978 are limited to programs considered essential to the continued vitality of the Institution.

The proposed Construction budget totals a modest \$8.5 million at the improvement level. The requested funds cover a myriad of purposes including the remaining planning funds for the Museum Support Center, resumption of construction under the National Zoological Park's Master Plan, continuation of phased projects, fire detection, correction of hazardous conditions, and general repairs and improvements.

1 Discrepancy between FY 1978 appropriation and the current level amounts due to treatment of Construction accounts (explained in submission) and inclusion of necessary pay for SSIE at intermediate level.

Rationale of Rankings

- The Salaries and Expenses and Construction accounts through the intermediate level are considered essential to the effective functioning of the Institution's programs and the integrity of its buildings.
- The Smithsonian Science Information Exchange minimum level is ranked below Salaries and Expenses and Construction intermediate levels since it exists outside the main fabric of the Institution. SSIE current and improvement levels are ranked last for this reason and because of SSIE's uncertain status.
- Salaries and Expenses "current services" level is accorded high priority since any reduction would have to be absorbed by cutbacks to existing programs.
- Construction at the current level is given the next order of emphasis in view of the fact that the majority of the resources in that package are designated to fund an approved Zoo Master Plan Development project.
- The major thrust of this year's Salaries and Expenses request lies in the area of original research. Research in the scientific area provides the baseline data for mission-oriented agencies. Research in science and history and art is essential to the Institution's exhibits, publications, and collections acquisition programs. As in the past, emphasis is also given support activities including buildings maintenance and to protection services.



SMITHSONIAN INSTITUTION
Priority Ranking of Decision Packages, 1979 Budget
(In thousands of dollars)

Rank	Decision Package Name and Number	BA	Outlays	<u>Cumulative</u>	
				<u>BA</u>	<u>Outlays</u>
1	Salaries and Expenses - Minimum (1000-1)	79,238	80,380	79,238	80,380
2	Construction - Minimum (4000-1)	3,125	4,977	82,363	85,357
3	Salaries and Expenses - Intermediate (no package provided)	7,911 ^{/1}	6,760	90,274	92,117
4	Construction - Intermediate (4000-2)	1,225	900	91,499	93,017
5	Science Information Exchange - Minimum (2000-1)	1,615	1,615	93,114	94,632
6	Salaries and Expenses - Current (1000-2)	1,089 ^{/1}	937	94,203	95,569
7	Salaries and Expenses - Current Services (1000-3)	1,518	1,305	95,721	96,874
8	Science Information Exchange - Intermediate (2000-2)	40	40	95,761	96,914
9	Construction - Current (4000-3)	3,125	1,600	98,886	98,514
10	Salaries and Expenses - Improvement Original research (1000-4)	664	571	99,550	99,085
11	Salaries and Expenses - Improvement Facilities management, protection and management services (1000-5)	754	648	100,304	99,733
12	Construction - Improvement (4000-4)	995	600	101,299	100,333
13	Salaries and Expenses - Improvement Original research--specialized projects (1000-6)	500	431	101,799	100,764
14	Salaries and Expenses - Improvement Public-oriented programs (1000-7)	284	244	102,083	101,008
15	Salaries and Expenses - Improvement Collections management and acquisition (1000-8)	155	133	102,238	101,141
16	Salaries and Expenses - Improvement Replacement funds for Endowment grants (1000-9)	535	461	102,773	101,602
17	Science Information Exchange - Current (2000-3)	162	162	102,935	101,764
18	Science Information Exchange - Improvement (2000-4)	316	316	103,251	102,080
19	Science Information Exchange - Improvement (2000-5)	725	725	103,976	102,805
	Total			103,976	102,805

^{/1} The total of these two amounts equals the incremental increase in the Salaries and Expenses current level decision package #1000-2

SMITHSONIAN INSTITUTION
Explanation of Rankings

<u>Decision Package</u>	<u>Explanation</u>
1. Salaries and Expenses - Minimum	Incorporates an overall reduction of \$9 million compared with the FY 1978 appropriation. Virtually all programs of the Institution are cut back to achieve this level.
2. Construction - Minimum	Includes funds for general repairs and improvements, phased projects, the remaining portion of Museum Support Center Planning funds and essential repairs and renovation at the National Zoological Park's Rock Creek and Front Royal locations.
3. Salaries and Expenses - Intermediate	Restores some \$7.3 million to programs reduced at current level and provides for approximately \$600 thousand in funding adjustments to provide resources, mainly for research awards and upgradings for the guard force, without exceeding the FY 1978 appropriated level.
4. Construction - Intermediate	Adds funds for fire detection, improvement of handicapped access, correction of hazardous conditions and further repairs and renovations at the Zoo.
5. Science Information Exchange - Minimum	Allows Science Information Exchange to process the Federally supported research projects it anticipates.
6. Salaries and Expenses - Current	Provides an additional \$1.1 million in funding adjustments to provide resources for other high priority programs such as the libraries, astrophysics, and folk-life.
7. Salaries and Expenses - Current Services	Adds funds for "necessary pay" and replacement funds for multi-year Endowment grants, now approved for FY 1979.
8. Science Information Exchange - Intermediate	Adds \$40 thousand for "necessary pay" for current employees.
9. Construction - Current	Provides for continued Master Plan development at the National Zoological Park with the construction of a Great Ape House and also for continued improvement to the dangerous Mt. Hopkins Observatory access road.

<u>Decision Package</u>	<u>Explanation</u>
10. Salaries and Expenses - Improvement	Emphasizes expansion of Research Awards Program, technical support for scientists and improvements to the Smithsonian Institution Libraries.
11. Salaries and Expenses - Improvement	Provides for continued improvements to protection services, facilities maintenance capabilities, and management services.
12. Construction - Improvement	Allows for additions or improvements to facilities at 4 off-Mall locations and 1 Mall museum. These improvements essentially support research programs, or preservation of the collections.
13. Salaries and Expenses - Improvement	Provide funds for specific individual research projects that would contribute data to foster knowledge of human nutrition, environmental preservation and disease prevention.
14. Salaries and Expenses - Improvement	Restores exhibits base funds at the National Museum of History and Technology, partially restores exhibit and education funds at the National Air and Space Museum, and provides additional support funds for education.
15. Salaries and Expenses - Improvement	Provides modest funds for improving collections acquisition and management capabilities at 4 history and art museums.
16. Salaries and Expenses - Improvement	Replaces funds heretofore received via grants from the Arts and Humanities Endowments.
17.-19. Science Information Exchange - Current through Improvement Levels	Improves processing and system design capabilities.

DECISION UNIT OVERVIEW
Smithsonian Institution
Salaries and Expenses: 33-0100-0-1-503
Decision Unit #1000

Long-range goal.

To promote the increase and diffusion of knowledge through original research, public education and national service in science, history and the arts.

Major objectives.

The Smithsonian Institution conducts a wide scope of activities to meet its long-range goal. The Institution is the world's largest museum complex and one of the world's leading research centers. The Smithsonian's museums are mainly located in Washington, D.C.; however, it also maintains major facilities in Cambridge, Massachusetts and Mt. Hopkins, Arizona (the Smithsonian Astrophysical Observatory), Edgewater, Maryland (the Chesapeake Bay Center for Environmental Studies), Panama (the Smithsonian Tropical Research Institute) and elsewhere. Because of the broad goal charged to the Smithsonian when it was founded, many of its functions do not lend themselves to quantifiable measures. There are, however, certain indices of progress in accomplishing the long-range goal. These include visitor statistics (approximately 20 million visits take place at the museums, galleries and zoological park annually); publications (the Institution maintains an active publications program in the sciences, history and art through research monographs, exhibit catalogues and education pamphlets); new exhibitions (permanent and temporary displays on timely subjects); and concerted efforts to make facilities available to others for research (pre- and post-doctoral fellowships and visits by students and scholars for independent study projects).

Major objectives to meet the long-range goal include the conduct of:

1. Original scientific research that provides the baseline data for policy planners in mission-oriented agencies. Much of this research is in the area of ecology and can be expected to lead to results that are directly applicable to national goals and needs.
2. Original historical research which enhances knowledge of this nation's growth through studies of its technological development, art, and folklife and folklore traditions. Included under this rubric are the efforts of the Institution to develop ways to preserve and protect invaluable works of art and other objects through advanced techniques such as the use of neutron activation to restore damaged or faded photographic images.
3. Public-oriented programs including exhibits, performances and educational services in Washington, D.C. and throughout the country through the Smithsonian's Traveling Exhibition Service. These services are offered

to elementary school children and their teachers through direct instruction, workshops, slide packages, and informational publications and to the national and international community of scholars through symposia and seminars and extensive mailings of scholarly publications. The Institution's Office of Museum Programs offers assistance programs to museums throughout the country and abroad. These programs are in the form of museum training courses, distribution of data on conservation principles and techniques, grants to museums for museological projects under the auspices of the National Museum Act, and the maintenance of liaison with national and international professional organizations.

4. Management and care of the National Collections and a selective art acquisition program.

To carry out these activities, it is essential that support services, including facilities management, protection and management services, be maintained in proper balance. (Building repairs, renovation and construction are equally necessary. Resource needs for these are discussed in the Construction Decision Package.)

Alternatives.

In general, alternative approaches to administering the various museums and units involve reviews of programs among bureaus to evaluate whether realignments of responsibility may lead to more effective execution. Also programs within bureaus are regularly evaluated to appraise their continuing relevance.

A "cooperative decentralization" characterizes the organization's structure and method of operation of the Smithsonian's museum and research bureaus' programs. For example, education and exhibition staffs, formerly centrally located, are now placed within the museums which also have responsibility for their own building management. Nevertheless, these bureaus draw upon centralized resources including the immediate offices of the Assistant Secretaries and certain other centralized units such as Office of Plant Services for specialized assistance. This type of operation has proven most efficient.

Certain support services, including Administration, Protection, and Office of Plant Services, are administered centrally for purposes of efficiency and cost-effectiveness. Alternative approaches for providing these services, including decentralization or greater use of outside professional and technical services, were rejected for one or more of the following reasons: loss of control over functions prescribed by law, increased costs, or inconsistent approaches to conduct of operations throughout the Institution. New techniques are being regularly explored and implemented such as increased computer usage, and installation of a Smithsonian alarms and communication control center and a building equipment monitoring system.

Current critical issues.

There are two issues which might properly be addressed in this section in view of FY 1978 Congressional action: the Research Awards Program and the receipt of grants from the National Endowments for the Arts and Humanities.

Research Awards

The Independent Offices Appropriation Act of 1964 included a proviso that prohibited the transfer of funds from the National Science Foundation to any agency of the government for research without approval of the Bureau of the Budget. To comply with the intent of this Act, the Institution requested funds in FY 1966 to replace partially the National Science Foundation funding of individual research projects of Smithsonian staff scientists. From that year until FY 1978, Smithsonian was granted \$390,000-\$450,000 per year for this purpose. Congressional action for FY 1978 reduced this program to a funding level of \$110,000, a figure designed merely to continue current research projects. With the dissolution of the Smithsonian Research Foundation through which this program was administered, the Smithsonian is formulating a plan for its administration within the Institution.

The decline in funding appropriated for Research Awards by the Congress in the past two years suggests that Smithsonian scientists once again be permitted to compete directly for funding for new research from the National Science Foundation. If agreed to by the Office of Management and Budget and the Congress, this would be an acceptable alternative to the continuation of this very vital program within the Institution. Without such agreement, restoration of funding for the program to previous levels is of great importance to Institutional research programs and staff.

Grants from the National Endowments for the Arts and the Humanities

The FY 1978 Congressional Conference Report stated that "neither of the Endowments should make grants to Federal agencies or organizations which rely primarily on Federal appropriations, such as the...Smithsonian Institution." Following this proscription, the Institution is requesting as a substitute some \$700,000 in the Salaries and Expenses Appropriation as replacement funds for Endowment grants which might normally have been anticipated for FY 1979. These funds are critical to a number of Smithsonian units, such as the National Portrait Gallery's "Charles Willson Peale Papers" project, the Joseph Henry Papers, and the Division of Performing Arts.

Accomplishments.

Because of the varied nature of the Smithsonian, achievements are expressed in a number of diverse ways. In terms of the Institution's activities, there is ample evidence of continued progress toward meeting the long-range goal and basic objectives. Visitation at major museums has reached 20 million per year; publications and lectures have increased over the past year; exhibitions are regularly being updated or replaced to educate the public on timely subjects; and visiting scholars from the academic community continue to use the Institution's facilities and collections and, in the process, interact with Smithsonian staff. It is expected that these trends will continue in FY 1978. Specific examples of major emphases and achievements by budget activity include:

1. Science (original research)

- Development of water quality parameters, bacteria analysis, nutrient environmental effect of herbicides on estuarine systems (Chesapeake Bay Center for Environmental Studies).
- Studies of the influence of diseases in the population dynamics of tropical forest reptiles (Smithsonian Tropical Research Institute).
- Analysis of land-use changes over 100 years on an estuarine system (Chesapeake Bay Center for Environmental Studies).
- Understanding the physiological tolerance of amphipods to oil pollution to determine the level at which pollution will disrupt the entire marine ecosystem (National Museum of Natural History).
- Analysis of the beaching of whales along our oceanic coasts (National Museum of Natural History).
- Success in the reproduction and conservation of several endangered species (National Zoological Park).
- Fabrication of the first scanning radiometer for the precision measurement of ultraviolet radiation (Radiation Biology Laboratory).
- Completion of multiple mirror telescope construction, currently in systems integration phase. The telescope, which represents a radical departure from the concept of large, single piece mirror, and is believed to be the forerunner of very large telescopes, is expected to received the "first light" in March 1978 (Smithsonian Astrophysical Observatory).

2. History and Art

a) Original research

- By FY 1979, the "Inventory of American Paintings Executed Before 1914," a computerized record of public and private collections throughout the nation will have over 210,000 paintings recorded.
- The National Portrait Gallery is in the process of completing a definitive catalogue on portrait engravings by Saint-Memin, and the papers of Charles Willson Peale will be prepared for microfiche publication.
- The Archives of American Art, created to stimulate and encourage research in all areas of American art history, has been adding approximately 320 new collections annually, including most recently the papers of Winslow Homer and Horatio Greenough. Moreover, the Archives will complete during FY 1978 a "Bibliography of American Art," a comprehensive multi-volume reference work of inestimable value to scholars performing research on American art.
- The Joseph Henry Papers Project, devoted to editing and publishing the papers of Joseph Henry, the first Secretary of the Smithsonian and a central figure in 19th century science in the United States, will by the end of FY 1978, complete the third volume and will complete editorial work on the fourth volume as well.

b) Exhibitions

- In FY 1978 the Museum of History and Technology will open a new exhibition, "Atom Smashers" and complete the new Hall of American Maritime Enterprise.
- The National Collection of Fine Arts annually presents some 22 exhibitions, each with a scholarly publication. In FY 1978 the relationship between art, culture and geography will be explored in an exhibition of Alaskan art.
- The Hirshhorn Museum and Sculpture Garden will develop four major exhibitions--all with catalogues--and nine smaller ones. Notably the Hirshhorn has also begun touring some exhibitions. "Drawings by David Levine" is currently on tour, and in Fiscal Year 1978 an exhibition on modern sculptors and their drawings will be prepared for tour.

3. Public Service

- In FY 1978, the Office of Elementary and Secondary Education will extend educational resources to a national audience of some 70,000 teachers through educational publications--Art to Zoo,

Learning Opportunities for Schools, and Let's Go: A Bulletin for Schools--and through a variety of year-round workshops. The Office also plans to assist museums in initiating programs for handicapped visitors, including special exhibitions and technical devices.

- The Anacostia Neighborhood Museum will design, fabricate and produce a major exhibition, "African Kingdoms," and continue its oral history program which documents the history of Anacostia and surrounding communities.
- Other public service organizational components will continue their efforts to reach a wide audience through such programs as "Radio Smithsonian," concert series administered by the Division of Performing Arts, and the exchange of publications from public and private institutions in the United States with organizations in other countries.

4. Museum Programs

- In FY 1978 architectural and engineering planning for the museum support facility will be advanced and the collections policy and management effort will be further developed and implemented. Other studies to be initiated include examination of climate control problems in museums and the requirements for improved museum conservation training facilities. The Native American Training Program will have established contact with and have begun training activities for several Native American groups.
- The Smithsonian Institution Libraries will update automated acquisitions systems and join established lending centers for improved access to resources.
- The Conservation-Analytical Laboratory expects to add approximately 500 information reports to its computer programs and undertake further development of its archaeometry functions.
- The Office of Exhibits Central expects to be involved in approximately 200 active projects.
- The Smithsonian Institution Traveling Exhibition Service plans to keep about 200 shows on tour and will emphasize Smithsonian Institution originated shows in FY 1978.

5. Office of Plant Services, Protection and Administration (Buildings management, protection and management services)

- The computerized power management system is achieving economies in electricity consumption.
- The computerized equipment monitoring system presently being installed will continuously monitor critical equipment (motors, circuits, control panels, etc.) to sense and report irregularities and permit correction before emergencies occur.

- By the close of FY 1978, the Office of Protection Services will have established comprehensive safety management and health services programs and an Institution-wide security policy program. The move to a Smithsonian proprietary alarms and communication control center will be 50 percent complete.
- Specific emphases in Administration will include strengthening various aspects (recruiting, orientation, classification, labor-management and performance evaluation) of the personnel program; increasing equality and opportunity in Smithsonian employment practices; completing the conversion of computer programs to a new hardware configuration; and perfecting automatic data processing programming and reporting for our newly-developed accounting system.

Package 1 of 9 (minimum level)

DECISION PACKAGE 1000-1
Smithsonian Institution
Salaries and Expenses: 33-0100-0-1-503

Activity description.

At this level, the principal concern is with the maintenance of existing major programs within each bureau or unit. Reductions are applied in a balanced manner throughout the Institution. With an appropriated amount of \$88.2 million for FY 1978 to carry out the variety of activities undertaken by the Smithsonian, an unrealistically large reduction was not considered possible without proposing measures such as the closing of museums during certain weekdays. Rather, this minimum level package was derived from program analysis to ascertain (a) whether the program was desirable and efficiently administered and (b) the level below which it could not exist with its basic functions continued in appropriate balance. Approximately \$1.6 million is recommended for redirection as a result of this review (to be discussed in current level package). While the Smithsonian could exist for a year at this level, the Institution's management believes that reduction below the current level would result in short and long term inefficiencies and interrupt important phased programs of planned improvements.

Personnel implications of funding at this level are as follows:

<u>Activity</u>	<u>FTP Positions At Minimum Level</u>	<u>Reductions Required from FY 1978 Appropriated Level At Minimum Level</u>
Science	1,195	-100
History and Art	593	-29
Public Service	76	-6
Museum Programs	263	-24
Administration	210	-24
Protection	486	-61
Plant Services and Printing and Photographic Services	<u>325</u>	<u>-36</u>
Total	3,148	-280

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)	85,236	88,238	79,238	79,238
Outlays (\$000)	85,314	87,699	80,380	80,380
Employment				
Full-time permanent*	3,372	3,428	3,148	3,148
Total	3,737	3,793	3,483	3,483
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Budget authority (\$000)	79,238	79,238	79,238	79,238
Outlays (\$000)	80,380	80,380	80,380	80,380

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions

Short-term objectives.

--Maintain existence of most Institution programs although at a substantially reduced scope.

Impact on major objectives.

- Original scientific research would be curtailed because of the reduction in technician and collections management support. Staff scientists, already lacking the proper level of technical support, would be compelled to undertake routine tasks themselves, thus further reducing effective research time. Moreover, some environmental and marine research would be curtailed as would library support for research.
- Original historical research publications and scholarly monographs would be reduced commensurate with a de-emphasis on exhibitions and work on certain projects such as the Joseph Henry Papers, archival efforts, the fellowship program, and folklife and folklore studies.
- Public-oriented programs would be reduced in scope including fewer and less comprehensive exhibitions and museum assistance programs. Fewer publications designed for elementary school children would result. Also proposed at this level is an \$80,000 reduction in National Museum Act funding, thereby allowing fewer grants to be made.

- Acquisitions funds would be reduced, adversely impacting on exhibitions and the objective of maintaining the highest standards of quality of existing collections.
- Support services including maintenance of public areas of museum buildings, protection services (discussed below), and administration would be strained severely.

Other information.

- There are certain programs which suffer long-range difficulties if funded at this level. For example, lack of adequate buildings maintenance could lead to damage of building systems which would be costly to correct in subsequent years.
- Funding at this level would interrupt the Institution's phased program of increasing its guard force to provide adequate protection to visitors and objects.
- With FY 1978 resources, the Smithsonian Institution Libraries can only achieve a 70 percent level of necessary acquisitions. Reductions to this program, necessary at the minimum level, would have a ripple effect on the research and exhibitions programs and contribute to less efficient use of our researchers' valuable time.

DECISION PACKAGE 1000-2
Smithsonian Institution
Salaries and Expenses: 33-0100-0-1-503

Activity description.

As a result of a rigorous program-by-program analysis, Institution managers are able to propose some \$1.6 million in funding adjustments within and among individual bureaus and offices to allow emphasis on some programs considered more vital than others. To the extent that existing programs have been expanded or new ones added, other programs have been decreased in scope. Programs accorded emphasis and additional resources at this level include Research Awards, folklife studies, library acquisitions, and protection services. To accomplish these improvements at the current level, program changes and resource reductions have been proposed in several areas of which the most important are the National Air and Space Museum's exhibits and educational programs, a variety of programs within the Museum of History and Technology, the Boston office of the Archives of American Art (proposed for elimination), custodial operations for the Smithsonian Institution Building, and the deferred start of evening hours for Mall museums (elimination of the two months period from April 1 to June 1, with the exception of holiday weekends). Another example of a cost savings at this level achieved through the zero base budget analysis is the planned elimination of the Government Printing Office contractual operation (\$67 thousand cost per year) and its replacement with a photo composition machine which would provide similar capability (\$30 thousand).

Personnel implications of funding at this level are as follows:

<u>Activity</u>	<u>FTP Positions at Current Level</u>	<u>Proposed Increase(+) or Decrease(-) from FY 1978 Appropriated Level at Current Level</u>
Science	1,312	+17
History and Art	628	+6
Public Service	83	+1
Museum Programs	281	-6
Administration	232	-2
Protection	545	-2
Plant Services and Printing and Photographic Services	<u>361</u>	<u>--</u>
Total	3,442	+14

Resource requirements.

		<u>1977</u>	<u>1978</u>	<u>1979</u>	
				<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)		85,236	88,238	9,000	88,238
Outlays (\$000)		85,314	87,699	7,697	88,077
Employment					
Full-time permanent *		3,372	3,428	294	3,442
Total		3,737	3,793	324	3,807
Five-year projections					
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	88,238	88,238	88,238	88,238	88,238
Outlays (\$000)	88,077	88,077	88,077	88,077	88,077

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

- Restore reductions made to cut back to the minimum level that are critical to the maintenance and support of existing programs.
- Emphasize original research and other selected high priority needs by funding adjustments of approximately \$1.6 million within and among individual bureaus.

Impact on major objectives.

- Original scientific research is emphasized by restoration of technical support funds and a proposed Research Awards Program of \$390 thousand compared with a minimum level program of approximately \$125 thousand. An additional 12 positions are provided for scientific, administrative, and technical staff associated with the operation of the multiple-mirror telescope. (No additional dollars are required since sufficient dollars are contained within the Smithsonian Astrophysical Observatory's (SAO) existing budget for the development of the multiple-mirror telescope.) Also at SAO, certain less important projects within the optical and infrared division such as photometric studies of galaxies are to be terminated in order to provide that division with resources needed to bring to a successful and timely completion other projects of significantly higher priority such as development of visible light and infrared detectors for ground-based, rocket and space-borne instruments.

- Original historical research is maintained at essentially the same level as in FY 1978. Additional emphasis will be placed, however, on folklife and folklore studies by redirecting funds to provide funds for more complete on-site documentation of Festivals and the hiring of an ethnomusicologist and folklorist. Resources for the fellowship and Joseph Henry programs are restored.
- Public-oriented programs are essentially restored to the current level. With the exception of the aforementioned exhibits and educational programs of the National Air and Space Museum, and sustaining the reduction to the Office of Exhibits Central, the Institution's exhibits program would proceed as planned. Publications for elementary school children are restored and distribution of the educational news publication, Art to Zoo, for elementary school teachers is to be expanded.
- Management and care of existing collections are stressed (for example, additional resources are proposed to establish a paper conservation capability at the National Portrait Gallery, to provide supplies and equipment for collections storage at the Cooper-Hewitt Museum, and to create a mobile cataloguing team in the Museum of History and Technology). The art acquisitions program will continue at approximately the same level as in FY 1978.
- Support services are maintained at the FY 1978 level through restoration of funds for buildings maintenance. Also, through redirection of base resources within Administration, the Institution's supply management and stock inventory control program are increased to more efficient levels. Internal engineering and design capabilities and budget office staff are also increased to meet growing workloads. Resources for these efforts, which should result in cost savings are provided through reducing such things as internal mail delivery from 3 to 2 deliveries a day and elimination of the London Bus operation which runs between the National Collection of Fine Arts and Portrait Gallery and the National Museum of History and Technology. While funds are provided for planned essential upgradings of the guard force as recommended by a recent Protection Management Study (approximately \$160 thousand), there is no provision at the current level for needed increases in the guard force.

Other information.

Reduction below the proposed current level would impact on virtually all Institution programs. Public service activities such as exhibitions and educational programs would be significantly curtailed, and research projects would be restricted because of cutbacks in technical support. An adequate buildings maintenance program could not be conducted, thus compromising the appearance of Smithsonian buildings open to the public. Moreover, such a reduction would undermine the careful managerial analysis of resource application. This analysis resulted in a proposed redirection of funds to cover Institution-wide priorities, most notably the conduct of original research.

DECISION PACKAGE 1000-3
Smithsonian Institution
 Salaries and Expenses: 33-0100-0-1-503

Activity description.

Same as current level decision package except an additional \$1,518 is included, of which \$1,345 pertains to necessary pay to cover the cost of within-grade increases in FY 1979, annualization of the FY 1977 legislated pay raises, and the workers' compensation bill to be paid to the Department of Labor, in FY 1979.

The remaining \$173 thousand is required to offset the impact of the proscription in the FY 1978 House-Senate Conference Report which stipulates that "neither of the Endowments (Arts and Humanities) should make grants to Federal agencies or organizations which rely primarily on Federal appropriations, such as the...Smithsonian Institution." The \$173 thousand proposed as part of this package is needed for replacement funds for multi-year grants already approved by the Humanities Endowment and a contract from the Arts Endowment for the Oral Jazz History Program. (It is not clear whether the Conference Report included a prohibition against contracts as well as grants. Pending further clarification from the Congress, this item is included in the submission.) Specific resources required to cover the loss of these grants and contracts follow:

<u>Grant Title</u>	<u>Grant Period</u>	<u>FY 1979 Resources</u>	
		<u>Positions</u>	<u>(\$000)</u>
The Papers of Joseph Henry	10/1/76-9/30/79	1	28
Peale Papers	9/1/76-8/31/79	3	86
Jazz Oral History	10/1/78-9/30/79	<u>2</u>	<u>59</u>
Total		<u>6</u> ^{/1}	173

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)	85,236	88,238	1,518	89,756
Outlays (\$000)	85,314	87,699	1,305	89,382
Employment				
Full-time permanent *	3,372	3,428	1	3,443
Total	3,737	3,793	6	3,813
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Budget authority (\$000)	89,756	89,756	89,756	89,756
Outlays (\$000)	89,382	89,382	89,382	89,382

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

^{/1} Consists of 5 term and 1 full-time permanent position.

Package 3 of 9 (cont.)

Short-term objectives.

Same as current level decision package.

Impact on major objectives.

Same as current level decision package.

Other information.

The impact of not receiving the necessary pay portion of this package would be that each bureau or office would be compelled to absorb the requisite share, and planned programs, therefore, would have to be reduced accordingly.

The effect of not having replacement funds for Endowment grants would be to jeopardize the Joseph Henry and Peale projects at a critical time as well as to interrupt progress on the urgent Jazz Oral History Project.

DECISION PACKAGE 1000-4Smithsonian Institution

Salaries and Expenses: 33-0100-0-1-503

Activity description.

Additional resources in support of original research including expansion of the Research Awards Program, and scientific technical and library support. Also included in this package are funds to enable the Institution to grant four new fellowship awards.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u> <u>Package</u>	<u>Cumulative</u> <u>Total</u>
Budget authority (\$000)	85,236	88,238	664	90,420
Outlays (\$000)	85,314	87,699	571	89,953
Employment				
Full-time permanent*	3,372	3,428	4	3,447
Total	3,737	3,793	4	3,817
Five-year projections				
Budget authority (\$000)	<u>1979</u> 90,420	<u>1980</u> 90,420	<u>1981</u> 90,420	<u>1983</u> 90,420
Outlays (\$000)	89,953	89,953	89,953	89,953

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

--To increase the Research Awards Program to a funding level of some \$730 thousand annually. The Congress appropriated only \$110,000 for this program in FY 1978 to enable the continuation of multi-year research projects now underway. With the dissolution of the Smithsonian Research Foundation which had administered research award grants, the administration of the Research Award Program has been placed within the Institution. The Smithsonian is hopeful of demonstrating successfully in the FY 1979 Congressional presentation the merit of this vital program, which with a relatively small Federal investment has produced extremely important research findings including a number of breakthroughs in astrophysics and several hundred publications.

- To provide an increased level (+\$165 thousand) of scientific support for the Museum of Natural History.
- To enable the Libraries to further its conservation efforts and to develop an improved retrieval system at the Smithsonian Institution Service Center (+4 positions and \$96 thousand).
- To increase the number of pre- and post-doctoral fellowships that can be offered by the Smithsonian (+\$40 thousand).

Impact on major objectives.

- As noted in the current level package, the furtherance of original research stands out as the highest priority of the Institution for FY 1979. Funding of this package would place the Research Awards Program at a reasonable level in light of the results produced. Moreover, the Research Awards Program has been an essential factor enabling the Smithsonian to attract and retain leading scientists in a variety of fields, and thereby maintain the highest standard of excellence as a research institution.
- A phased program of support funds for improvement of the Libraries will assist original research and be cost effective in that highly trained scientists will be able to devote more time to conducting their research.
- The modest fellowship program conducted by the Smithsonian provides intellectual stimulus to curatorial and scientific staff through their collaboration with the participating pre- and post-doctoral students.

Other information.

As noted in the "decision unit overview," an acceptable alternative for the Research Awards Program would be the opportunity to compete again for funding for new research directly from the National Science Foundation (NSF). We would stress, however, that the current selection process for the awarding of research grants within the Smithsonian is patterned precisely on the model used by the NSF. Specifically, awards are made on a competitive basis by a rotating panel of six distinguished scholars and scientists who are not affiliated with the Smithsonian. The current panel includes the Director of the Institute for Advanced Studies at Princeton, the President-designate at Cornell University and professors at leading universities.

Whether under the Smithsonian or the National Science Foundation, the objective of providing Smithsonian staff the opportunity to apply for funds for individual research projects in competition with their peers would be met.

Package 5 of 9 (improvement level)

DECISION PACKAGE 1000-5
Smithsonian Institution
Salaries and Expenses: 33-0100-0-1-503

Activity description.

The maintenance of a balanced support program, with emphasis on phased improvements in key areas, including facilities management, protection, and management services is provided for in this package. A total of 40 new positions and \$754 thousand are requested, mainly for protection (17 positions and \$214 thousand) and facilities management (17 positions and \$394 thousand including \$150 thousand for utility rate and consumption increases).

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)	85,236	88,238	754	91,174
Outlays (\$000)	85,314	87,699	648	90,601
Employment				
Full-time permanent *	3,372	3,428	40	3,487
Total	3,737	3,793	40	3,857
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Budget authority (\$000)	91,174	91,174	91,174	91,174
Outlays (\$000)	90,601	90,601	90,601	90,601

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

- To move toward the goal of covering all guard posts which have been determined by studies of protection requirements.
- To maintain the physical plant at several out-of-town or outlying areas, including the Smithsonian Tropical Research Institute, the Cooper-Hewitt Museum, the Anacostia Museum, the Silver Hill storage facility, and the Smithsonian Institution Service Center.

Package 5 of 9 (cont.)

--To compensate partially for rate and consumption increases in utilities, communications, mail, and rent.

--To improve the Smithsonian's facilities planning and engineering, supply services and audits capabilities necessary to meet increased demands for such services.

Impact on major objectives.

Facilities maintenance and adequate guard coverage are essential to support exhibits efforts at the Institution's museums. Selective improvements, particularly in the areas of facilities planning and engineering and supply services, also support operating units in the conduct of their programs.

Other information.

Larger preventive maintenance expenditures now will be more than offset by future savings in replacement and repair costs. Adequate facilities are essential for research projects to proceed on schedule and insure that the valuable time of the researchers is spent productively.

The funds included in this package for rate and consumption increases (\$150 thousand) represent a modest amount compared with FY 1977 experience. Should these funds not be forthcoming they would have to be derived from the Institution's preventive maintenance or other programs through reprogramming.

The guard force is currently approximately 125 full-time people short of staffing all identified guard posts. The proposed increment for protection is essential to sustain the momentum of the Institution's phased program of staffing all posts, thus providing improved service to visitors and protection to valuable irreplaceable objects.

DECISION PACKAGE 1000-6
 Smithsonian Institution
 Salaries and Expenses: 33-0100-0-1-503

Activity description.

Original research projects designed to provide unique and invaluable information in the areas of human nutrition, environmental preservation, and disease prevention. Projects included in this package are designed to foster knowledge necessary to make sound judgments and decisions about the use and regulation of our natural resources for the improvement of the quality of life.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)	85,236	88,238	500	91,674
Outlays (\$000)	85,314	87,699	431	91,032
Employment				
Full-time permanent*	3,372	3,428	22	3,509
Total	3,737	3,793	22	3,879
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Budget authority (\$000)	91,674	91,674	91,674	91,674
Outlays (\$000)	91,032	91,032	91,032	91,032

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

- To accumulate fundamental data on the natural enrichment process occurring in tropical upwellings which may be simulated by man into food technologies. This study which will be conducted in Panama Bay--the Pacific terminus of the proposed Sea Level Canal--will improve our fundamental knowledge of the ecology of this critical region.
- To investigate the role of insects, such as mosquitoes, in the transmission of disease and other pest control problems.

- To establish an International Bamboo Center to study one of the potentially most valuable natural renewable resources in Tropical America.
- To perform research, compilation, illustration and computerized services for production of a 4-volume work of about 2,500 pages which will make possible on a world-basis the identification of tiny marine creatures such as beach fleas (gammaridean amphipods) used in environmental impact studies, monitoring programs, tolerance physiology, and theoretical evolution.
- To study the role of chemicals in the defenses of plants and animals and the effect of sewage and chemical run-off into estuaries.
- To study the histories, systematics and causes of whale and porpoise strandings.
- To research the feeding strategies of several animal species to avoid overgrazing and permanent damage to the ecosystem.

Impact on major objectives.

- Original research, which is a keystone in the Smithsonian's effort to increase knowledge, would be continued in programs that are designed to develop data that could lead to betterment of the quality of life.

Other information.

- The Smithsonian Institution is uniquely qualified to carry out this original research because of the expertise of its scientific staff and field stations in a variety of habitats.

DECISION PACKAGE 1000-7
Smithsonian Institution
Salaries and Expenses: 33-0100-0-1-503

Activity description.

Partially restore funds redirected toward higher priority programs at the current level, particularly for exhibits at the National Air and Space Museum (NASM) and the National Museum of History and Technology and education programs at NASM. Funds are also provided for a journalism intern for the Office of Public Affairs and minor amounts to buttress support for the education, public affairs and education programs of the Institution. An increase of 1 position and \$284 thousand are requested of which \$135 thousand are exhibits-related and some \$100 thousand are designated for education purposes.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>		
			<u>This</u>	<u>Cumulative</u>	
			<u>Package</u>	<u>Total</u>	
Budget authority (\$000)	85,236	88,238	284	91,958	
Outlays (\$000)	85,314	87,699	244	91,276	
Employment					
Full-time permanent *	3,372	3,428	1	3,510	
Total	3,737	3,793	1	3,880	
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	91,958	91,958	91,958	91,958	91,958
Outlays (\$000)	91,276	91,276	91,276	91,276	91,276

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

--To restore funds for exhibits at two of the Institution's most heavily visited museums.

--To fund the education programs of the Air and Space Museum at an adequate level to enable the museum to hold a seminar and publish the proceedings on the subject of research for space colonization, develop a comprehensive program for the education of area school children, develop plans for the fabrication and design of a visitor orientation center, and significantly, further its unique and urgent oral history program.

Impact on major objectives.

Although the funding of original research has emerged as a priority in this budget presentation, the Institution recognizes its responsibilities in the area of public-oriented programs. Accordingly, some funds redirected at the current level to further research are proposed for partial restoration in this package.

Other information.

Should this package not be approved, the National Air and Space Museum will not be able to present a new exhibit "Earliest Flight," or hold the seminar and publish the proceedings mentioned above. Moreover, the Museum's education programs, carefully conceived from a recent study by an outside group of experts, would have to be curtailed. Even at this "improvement" level only partial, essential restoration of current level reductions are recommended for the National Air and Space Museum.

DECISION PACKAGE 1000-8
Smithsonian Institution
 Salaries and Expenses: 33-0100-0-1-503

Activity description.

At this level, increased funding would be provided for acquisitions for three art museums--the National Portrait Gallery, the National Collection of Fine Arts and the Hirshhorn Museum and Sculpture Garden (\$125 thousand) and for collections storage equipment for the Museum of History and Technology and the National Portrait Gallery (\$30 thousand).

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)	85,236	88,238	155	92,113
Outlays (\$000)	85,314	87,699	133	91,409
Employment				
Full-time permanent*	3,372	3,428	--	3,510
Total	3,737	3,793	--	3,880
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	92,113	92,113	92,113	92,113
Outlays (\$000)	91,409	91,409	91,409	91,409

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

- To assist the above cited art museums in the building of a comprehensive collection.
- To permit proper storage of objects in a secure, but easily accessible fashion.

Impact on major objectives.

Although these museums do rely, in part, on the generosity of donors, the building of a comprehensive collection requires purchase of works of art which would not otherwise be available to the public.

DECISION PACKAGE 1000-9Smithsonian Institution

Salaries and Expenses: 33-0100-0-1-503

Activity description.

The funds requested in this package are required to offset the impact of the proscription in the FY 1978 House-Senate Conference Report which stated that "neither of the Endowments (Arts and Humanities) should make grants to Federal agencies or organizations which rely primarily on Federal appropriations, such as the... Smithsonian Institution." At this time approximately 17 requests for new grant funds from seven different organizations within the Smithsonian have been identified as projects that were to be submitted to the Endowments for FY 1979 funding. Funds requested in this package are to replace the grants that were anticipated from the Endowments in FY 1979. This is a companion request to Package 1000-3 which spoke to ongoing projects. No additional positions are associated with these funds.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>		
			<u>This Package</u>	<u>Cumulative Total</u>	
Budget authority (\$000)	85,236	88,238	535	92,648	
Outlays (\$000)	85,314	87,699	461	91,870	
Employment					
Full-time permanent*	3,372	3,428	--	3,510	
Total	3,737	3,793	--	3,880	
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	92,648	92,648	92,648	92,648	92,648
Outlays (\$000)	91,870	91,870	91,870	91,870	91,870

*Totals for FY 1977 and FY 1978 reflect approved Congressional positions.

Short-term objectives.

The proposed grants are summarized as follows:

<u>Organization</u>	<u>General Objective(s)</u>	<u>Dollars (in thousands)</u>
National Zoological Park	Public education--including development of educational films and research in visitor needs	\$250

DECISION UNIT OVERVIEW
Smithsonian Institution
Science Information Exchange: 33-0103-0-1-251
Decision Unit #2000

Major objectives.

Smithsonian Science Information Exchange (SSIE) has three principal objectives aimed at "the increase and diffusion of knowledge among men." Through the systematic collection, processing, and dissemination of information on research in progress, SSIE serves the nation's community by providing information designed to help:

- Avoid unwitting duplication of research;
- Improve the process of scientific communication; and
- Enhance the development and implementation of strategies for national research planning and science policy making.

SSIE works toward meeting these objectives through the operation of a national system of current research information, the scope of which crosses the boundaries of agency missions and the traditional disciplines of science. The importance of this information to scientists and research managers lies in the fact that it serves to bridge the communications gap between the time work on a new research project is authorized and the time results of the research are published and disseminated.

The SSIE system is unique among scientific and technical information resources, however, in that it has both a scientific focus and a socio-economic one. The scientific aspect of the system serves to complement the literature, which covers completed research, with information on research actually in progress. The socio-economic aspect serves to provide information on the patterned interrelationships among scientists, funding organizations, research institutions, and levels of funding. It is this combination of characteristics which makes it potentially possible for the current research information system to serve as a powerful tool in support of the analysis of science policy options for societal problem solving.

The value of SSIE's services to its thousands of users depends on three major factors: its comprehensiveness of coverage of research in progress; the timeliness of the information in the data base; and the effectiveness with which the information is made available for use throughout the research community. On this basis, SSIE has established the following short term goals:

- 1) To improve the completeness of the Federally supported research information in the SSIE file through Executive or Legislative Branch actions designed to provide for comprehensive Federal reporting;
- 2) To improve the completeness of non-Federally supported research information in the SSIE file through either: a) a Federally funded program of input solicitation and liaison with universities, foundations, associations, industry, and state and local governments, or b) through the selective solicitation of non-Federal input in areas of critical national concern, such as cancer research and energy, under service support contracts with responsible Federal agencies;
- 3) To improve the timeliness of all information included in the file and the quality of the indexing necessary for retrieval;
- 4) To enhance the accessibility of the SSIE file to key users within the Federal Government by providing, in the Washington metropolitan area, for direct on-line interaction with the SSIE data base;
- 5) To expand utilization of existing information services through innovations and improvements in SSIE's user education efforts;
- 6) To improve the value of SSIE information to its users through the development of new products and services designed to meet identifiable user needs;
- 7) To develop the potential of the SSIE data base as a resource for science policymaking by undertaking research and development activities designed to solve the methodological problems which currently inhibit major science policymaking applications; and
- 8) To reduce SSIE's need for Federal appropriations to support input processing through increases in user income.

Alternatives for SSIE's organizational status and operations.

The General Accounting Office Report GGD-77-43 on the Smithsonian Institution, "Need to Strengthen Financial Accountability to the Congress," recommended that the Board of Regents dissolve the SSIE and conduct its operations as part of the Smithsonian Institution's regular organizational structure. In its action on the fiscal year 1978 appropriation, the Senate Appropriation Committee in its Report 95-276 stated that efforts should begin to effect the transition of the Exchange to Federal status either in the Smithsonian or another appropriate Federal agency. Responsive to this instruction, the SSIE has prepared the following preliminary assessment of possible alternatives for its organizational placement and operations. Selection of the most appropriate alternative awaits the results of discussions with the Office of Management and Budget and other interested organizations.

1. Current operations. SSIE is operated as a not-for-profit corporation of the Smithsonian Institution. A large part of the support for the collection and processing of current research information into the SSIE system is derived through funds appropriated by the Congress which are provided to SSIE annually in the form of a contract between SSIE and the Smithsonian Institution. Contract funding mechanisms such as this one have been used to provide Federal support to SSIE since its establishment in 1949, primarily to assure that the Exchange would be operated independently of Federal agencies with programmatic interests in research funding.

The Exchange currently processes into its data base information on some 110,000 to 120,000 current research projects each year covering all fields of science. This information is drawn from more than 1,300 supporting organizations, including all agencies of the Federal Government as well as major foundations and fund raising associations, universities, state and local governments, and, to a limited extent, private industry. SSIE uses a staff of scientists and engineers and a unique, 30,000 term series of hierarchical subject indexes to classify this information for retrieval in response to broad as well as highly specific requests for information on research in progress. SSIE conducts searches of its current and historical files, performs searches by investigator name, and prepares tabulations of research in particular subject areas organized by supporting organization, performing organization, geographic location and so on.

The Exchange also performs specialized large-scale information services in response to requirements established by Federal agencies. Such services include the preparation of directories of research in progress information for publication and distribution in areas such as water resources research, toxicology, dental research and so on; operation of current research information centers which provide a wide range of data collection and retrieval services, (such as the Current Cancer Research Project Analysis Center (CCRESPAC) operated for the National Cancer Institute under the International Cancer Research Data Bank (ICRDB) program); delivery of subsets of the SSIE file in magnetic tape form in support of information center activities of other organizations; and conduct of specialized information collection and analysis functions in areas of key national concern, such as energy research.

All retrieval services are performed by SSIE on a cost recovery basis designed, first, to cover the cost of the service and, second, to help offset the Federal costs of input processing.

SSIE was originally established as a non-Federal organization under a charter drawn up in 1949 by the then five Federal agencies engaged in supporting research in the medical sciences. Its purpose was to provide for the exchange of current research information among these agencies as a means of avoiding unwarranted duplication. Since then, SSIE has been the subject of numerous studies by the General Accounting Office, hearings conducted by the Congress, and studies carried out within the Executive Branch. It continues to operate, nevertheless, in the absence of either enabling legislation or Executive mandate, relying on voluntary participation by the Federal agencies in the registration of information on the

research projects they support and in the use of the Exchange in lieu of establishing independently operated systems in their own areas of programmatic interest.

In spite of the difficulties caused by a lack of formal recognition, SSIE has been able to steadily increase the number of Federal research projects entered into its system each year and to generate increasing revenues through the information products and services it offers. In so doing, the Exchange has been successful in holding to a minimum its requirements for Federal support and in maintaining a level of quality in indexing and retrieval believed necessary for it to fully meet the needs of its many users. It is believed, however, that even greater progress could be achieved, particularly in the application of current research information to the process of national science policy making, if these constraints were removed through actions at the national level which would: 1) provide for comprehensive Federal reporting to SSIE and 2) at the same time establish consistent and cohesive national policies regarding the operation and use of current research information resources supported by the Federal Government.

2. Federalization of SSIE. SSIE has been operated as a non-Federal organization since it was originally established. Federalization, if necessary, might be accomplished: 1) under the Smithsonian, or 2) under a Federal agency outside of the Smithsonian, or 3) through the establishment of SSIE as a Federally Chartered Corporation or Federally Funded Research and Development Center. The Exchange believes that it should not be merged with any current Federal information system which handles bibliographic information, such as the National Technical Information System (NTIS) in the Department of Commerce. While there are certain similarities in the operations of the NTIS and SSIE, the Exchange feels that the merger of these two organizations would not be in the best interest of the Government. Such a merger has been considered in the past at both the Executive and Congressional levels, as a part of other reorganizational efforts, but not implemented. As the GAO report noted and the Congressional appropriation hearings emphasized, SSIE's service is primarily to the Government (95 percent). NTIS, on the other hand, primarily serves the non-Federal user. It should also be noted that the Information Industries Association has expressed some concern over the operation of NTIS by the Government rather than by private industry. While this concern is not directed toward SSIE, a merger of SSIE and NTIS might trigger a strong reaction from the information industry which would not be in the best interest of Government-operated information systems as a whole.

In its present mode of operation, the Exchange currently operates the only system in the United States which contains information on all areas of research in progress supported by both Federal and non-Federal sources. This information is uniformly subject-indexed by scientists and engineers at the Exchange regardless of its source, an approach which contrasts with indexing structured from a mission-oriented viewpoint for use within various agencies. SSIE thus provides an unbiased source of information about current efforts in any research area regardless of where or why the research is performed, and provides a uniformity of response to compare with similar information which might be obtained from

individual agency sources. SSIE is not designed to replace the individual agency data bases maintained for management of agency programs, but to provide the agencies the opportunity for awareness of similar research efforts in other Federal and non-Federal organizations.

It has also developed that SSIE has become a particularly rich resource for analyzing and managing the Federal effort in R&D topics of high national interest although the potential value of the data base for policy making has not yet been fully developed. The Exchange specifically was not established within any single, mission-oriented agency in order to insure that its responsiveness to management needs would be unbiased. It was expected that SSIE would develop products and services which met the needs of all users in the Federal, and, to a lesser extent, non-Federal communities, rather than simply serve as a purveyor of information received, as does NTIS. SSIE's potential for expansion to provide more useful R&D management information has in large part been proscribed by its limited financial support and by the fact that its relatively small budget has not been a prime concern to OMB. The Office of Management and Budget is aware of the numerous studies carried out by the Executive Branch of the Government as well as the GAO reports and Congressional hearings, all of which have highlighted SSIE's current and potential role in R&D management. In the Congress, in particular, a substantial amount of recent and pending legislation specifically directs the heads of various agencies to establish inventories of ongoing research in selected subject areas to minimize duplication and better coordinate research efforts (e.g., H.R. 5101 and S. 1617, H.R. 2 and S. 7, H.R. 78 and 79). Given OMB and the Office of Science and Technology Policy (OSTP) support for such a role, the Exchange could serve in almost every case as a center which would meet these needs at minimum overall cost to the taxpayers compared to that for establishing numerous totally independent systems.

Possible locations for SSIE within the Federal system might be OSTP or NSF, either as an integral part of these organizations or as a Federally Chartered Corporation or Federally Funded Research and Development Center (FFRDC). As a Federally Chartered Corporation, or FFRDC, the Exchange could preserve much of the flexibility it now has in assessing user fees, in undertaking new support service activities with both Federal and non-Federal organizations on short notice, and with personnel ceilings limited only by user income. In addition, the requirements incumbent on a Federally Chartered Corporation or FFRDC should satisfy the points raised in the recent GAO report and Congressional hearings regarding greater accountability to the Congress.

While the Smithsonian does not believe it to be desirable to operate the Exchange within the Federal activities of the Institution, it might be willing, as one alternative, to participate in the operation of the Exchange as a separate corporation under one of the modes described, provided such participation is endorsed by the Smithsonian Institution Board of Regents, OMB, and, of course, the Congress.

If the Exchange were established under OSTP itself, it could provide an extremely valuable support service to this office in terms of those functions and coordinating activities assigned OSTP under the

National Science, Engineering and Technology Policy and Priorities Act of 1976 (P.L. 94-282). Through close liaison with this office, combined with the formal role discussed in the following section, the Exchange would be able to assure maximum comprehensiveness of its data base and develop new programs geared toward improved reporting of R&D activities, and better coordination of Federal agency and non-Federal research activities, including those undertaken by state and local governments. It would also be able to help assure that the use of the data base by Federal agencies would be maximized and that new data bases in selected subject areas would not be created outside the Exchange except where especially warranted and thus save the Government from duplicating similar information systems at large expense. It is far better to build on an existing system than to create totally new systems which duplicate and compete with existing ones, such as SSIE.

If it were not considered feasible to operate the Exchange as a Federal entity under OSTP, perhaps it could be under OSTP management as a contract operation as provided for in Sec. 207(c) (3) of P.L. 94-282. Congress might possibly accept SSIE's current nonprofit corporate status if it felt the Exchange were receiving close oversight from the OSTP. A reorganization of its current Board of Directors would ensure stronger Executive Branch management. This might also be accomplished by establishing the Exchange as an FFRDC.

A third alternative which might be explored is the establishment of the Exchange under the National Science Foundation (NSF). While the NSF does not normally operate systems such as the SSIE, it does seem that it might be possible under their existing legislative mandate (P.L. 85-864) and authority. The NSF at one time (1964-1970) had management responsibility for the Exchange, although it contracted with the Smithsonian for its operation. The Science Information Activities Task Force, recently established by NSF to look at communication and use of scientific and technical information, noted Congressional recognition of NSF's role in the dissemination of science information. Perhaps more important in the present context, however, is the fact that NSF is not a strongly mission-oriented agency.

NSF had traditionally been involved in providing R&D information to both the Executive Office of the President and the Congress. Information in the SSIE data base could be developed in such a way as to enhance its use for management and policy making purposes through closer integration with NSF. For example, the Exchange could provide an extremely useful tool, with further development, for the science indicators program of the National Science Board. It is also anticipated that NSF will be providing in the future, as it has to some extent in the past, more R&D information to OMB and OSTP (see P.L. 94-741). The ability of the NSF staff to work more closely with SSIE, its staff, and its information base of present research could result in significant new programs in a shorter period than might otherwise be possible in the Exchange's present environment. Should NSF not wish to operate the Exchange but concur in its overall management, in a way similar to that which it did in 1964, the SSIE might be operated under its aegis as a nonprofit contract operation or as an FFRDC. Should it be placed under NSF, it would seem most desirable to establish it as a separate Division directly under the Director.

It is anticipated that all of the above options as well as other alternatives suggested by OSTP and NSF will be discussed with OMB in the immediate future. It is clear that the location of SSIE, its mode of operation and strong EOP support will all impact on the financial status of the Exchange in FY 1978 and FY 1979.

Official recognition.

The establishment of an official role for SSIE as the national center for information on research in progress would offer a solution for a wide range of problems inherent in SSIE's operation. It is envisioned that official recognition of SSIE would include three principal elements: 1) provision for comprehensive reporting of Federal current research information; 2) establishment of policies governing Federal and public access to and use of the Exchange; and 3) coordination of the widespread and diverse ongoing research information activities of the Federal Government within a single, integrated, national network.

Full realization of the value of SSIE as a national research information resource requires that certain, basic criteria must be met by the system. Specifically, the system:

- Must obtain accurate, reliable data from all relevant sources covering all data elements needed;
- Provide for the timely collection, receipt, and processing of data input;
- Assure standardized reporting;
- Provide for consistent treatment of subject matter across departmental and disciplinary lines;
- Provide for retrieval of information, screened for contextual relevance, in a wide variety of analytical formats; and
- Provide for validation of the reliability of information outputs in the context in which they are intended to be applied (including specification of whatever limitations on the use of the data which validation testing might reveal).

Meeting these criteria has been a principal focus of SSIE efforts since its inception in 1949. The Exchange has consistently worked toward the most comprehensive and timely coverage of research as has been possible within the constraints under which it has had to function. A sophisticated and reliable subject indexing methodology has been developed which is based on a system of machine-assisted indexing augmented by professional review to assure scientific accuracy and provide for the addition of conceptual terms which cannot be identified by machine. Moreover, SSIE is taking steps to solve the persistent problem presented by the multiple relevance of individual research projects to categories selected for analysis.

Nevertheless, deficiencies exist which need to be overcome if SSIE is to provide fully effective current research information services to the nation's research community. The critical factor in this regard relates to comprehensiveness of coverage, a problem which lies less within the control of SSIE than it does within the institutional environment in which the Exchange must operate.

The adjustments which are needed to provide for the operation of SSIE as a national system for current research information can be made. But they require a national commitment to doing so, including provision for the comprehensive Federal reporting of current research information to the Exchange. Such a provision could be structured to result in improvements in the coverage of all existing systems and, at the same time, minimize the unevenness of data element reporting and reduce or eliminate needless duplication of data collection and input processing efforts. To meet these goals, comprehensive reporting would need to be based on the establishment by OMB of a standardized approach which would address:

- Timeliness criteria, covering the desired frequency of reporting and the stage(s) in the life of the project at which project data should be prepared and/or updated;
- Data element standardization, covering specification and definition of the basic data elements required for effective system operation;
- System coordination, specifying where the data should be initially assembled and processed into standard tape formats;
- Categorization criteria, in spite of their limitations, covering the one or more national contexts against which research project activities should be classified in terms of the principal thrust of the project (these might include, for example, national goals; research categories, such as basic and applied research; or categories of scientific activity); and
- Comprehensiveness criteria, specifying the standards against which completeness of reporting should be measured (such as NSF's annual report on Federal funds for science or the special analysis of Federal expenditures for R&D contained in OMB's annual budget transmittal to the Congress).

In order for the coverage of the system to also include research sponsored outside the Federal sector, a condition considered by many to be essential, additional steps would have to be taken to provide incentives to the private sector to register research. These might include search service credits, information exchange, dissemination of published information products, guaranteed protection of proprietary data, and the like.

If a national commitment to the maintenance and operation of a fully effective national data base of information on research in progress were made, the investment and effort required to resolve the technical problems which are subject to the control of SSIE should likewise be made. These include a need for research

into the application of advanced analytical techniques to the problems of project categorization in varying analytical contexts and those of validity testing of information outputs. For example, methods need to be developed and tested which would provide for reliable and economical demonstration of:

- Either the comprehensiveness or the representativeness of the data base;
- Either the comprehensiveness or the representativeness of specific information outputs;
- The reliability and completeness of key data elements reported, such as fiscal information and period covered; and,
- The consistency and reliability of subject indexing or other methods used for categorization of information into analytical contexts.

These techniques are required if full advantage is to be taken of the socio-economic aspects of the current research information system. One such advantage, by way of example, might be the application of the system to the development of measures of scientific input which could be correlated with the measures of scientific output currently being specified by the National Science Board as a part of its national science indicators project. If successful, such an effort could have major strategic implications for the early identification of opportunities for technology transfer and utilization and for simulation of the impact on the scientific community of alternatives considered in the process of the formulation of national science policy.

Other examples can be cited in which the potential for application of current research information, drawn from an effective national system, far exceeds those applications which can currently be made. These include: the development of data integrated into the analytical contexts required by commissions and inter-agency committees to identify alternatives for improved coordination and management of the nation's research efforts in particular fields; the provision of analytical support services to agencies charged with lead agency responsibility for research which falls within the scope of their primary missions, and the development of baseline and trend analysis data which might assist the OSTP in its efforts to conduct the studies and analyses required by the National Science, Engineering, and Technology Policy and Priorities Act of 1976. The full development and use of these techniques will be limited, however, in the absence of the official national recognition and support which will allow SSIE to help bring it about.

Accomplishments.

Progress in achieving SSIE's major objectives can be measured in terms of the short term, operational goals identified in the previous section. By the end of FY 1978, the following progress is anticipated:

- In terms of the comprehensiveness of Federal input, SSIE hopes to have resolved outstanding input registration issues with two major, Federal agencies and, as a result, anticipates an overall increase in the registration of Federal research project information from the current level of approximately 100,000 Federally-supported projects annually to an FY 1978 level of 106,000 projects. Further increases in Federal input cannot be anticipated, however, in the absence of Executive or Legislative Branch support for comprehensive Federal reporting and for the supplemental funding which would be required to provide for its processing.
- In terms of the comprehensiveness of non-Federally supported research, no progress is anticipated in FY 1978, since the \$200,000 cut in SSIE's budget will preclude solicitation of additional non-Federal research project information. SSIE expects to receive and process into the data base information on approximately 14,000 non-Federal research projects in FY 1978, although the extent to which these projects will be fully indexed may depend on the requirements of then existing information service contracts. An estimated 6,000 non-Federal projects will be set aside during FY 1978.
- With respect to timeliness of the information in the data base and the quality of indexing for retrieval, SSIE plans to initiate changes which will reduce the cost of the input processing and allow the reductions in staff made necessary by the \$200,000 budget cut in FY 1978. Notices of continuing research projects will either be included in the data base with the indexing carried forward from the previous year, or will be included with this indexing supplemented by machine-assisted indexing. This action should have the effect of reducing the delay between the availability of new project records with only machine indexing applied, and their availability with complete conceptual indexing applied by the scientific staff. This is expected to reduce indexing backlogs from an average of 6 weeks to an average of 4 weeks, and may, depending on its effectiveness, allow more complete processing of non-Federal research information. SSIE may also have to effect further economies by eliminating all scientific review of machine indexing in subject areas in which ongoing research information is being separately made available to the public, without cost, by Federal agencies. This option is being considered on the basis of the fact that direct use of the information by the research community is less likely than it is in other areas where the information is not being made freely available. Finally, the conversion from hard copy to tape input by at least one Federal agency is anticipated in FY 1978. This change should improve both frequency of reporting and the speed of registration for an estimated 4,000 Federally-supported research projects.
- Progress in meeting SSIE's goal of improving direct on-line access to the Exchange's computerized data base by Federal agencies for research management purposes will be deferred until at least FY 1979. In the interim, however, Federal use of the file for technical applications by agency scientists, through SSIE's on-line vendors which deliver dial-up access to the file, is expected to increase from approximately 20 to approximately 40 connect hours per month.

- SSIE is currently experimenting with new user education techniques which are expected to increase utilization of SSIE over time in the university and government sectors. These techniques, which the Exchange hopes to be able to implement in late FY 1978, should increase the number of pre-run search products provided by SSIE from 4,000 in FY 1977 to 6,000 by FY 1979 and to increase overall on-line utilization from 100 to 150 connect hours per month over the same period (the equivalent of an increase in subject searches conducted of 200 per month).
- Two new product development efforts are currently being market-tested by SSIE: 1) microform access to the data base, and 2) a research trends analysis service. Should these products be successful they will be available during the latter part of FY 1978 and have an impact on user revenues in FY 1979.
- In terms of developing effective mechanisms for the widespread application of the SSIE data base to science policy making requirements, SSIE expects by the end of FY 1978 to have completed a planning effort designed to identify the specific research activities which need to be undertaken. The conduct of this research, however, will be deferred pending the availability of funding, an element which is included in SSIE's FY 1979 budget request.
- As a result of the \$200,000 budget cut in FY 1978, the dollar cost of the Federal share of SSIE's total cost of operation will be reduced. This action will also have an impact on the level at which SSIE will be able to sustain user education and product development efforts, however, and some decreases in user revenues can be expected to result. Before the \$200,000 budget cut the Exchange estimated its revenue from user income at \$1,300,000. However, the cut will result in a decreased user education and product development effort and may be expected to result in a reduced user income of less than \$1,300,000. The Exchange could, if OMB-OSTP insisted that Federal agencies conducting inventories on ongoing research or establishing information systems on research in progress utilized the Exchange in FY 1978 and FY 1979, earn user revenues in excess of the budget cut in FY 1978 of \$200,000 and significantly exceed the original user revenue projections. The Exchange believes that building Federal and non-Federal inventories through use of the SSIE can result in substantial savings of several hundreds of thousands of dollars while at the same time reducing the need for completing thousands of similar forms for independently established subject-oriented data bases of research in progress.

DECISION PACKAGE 2000-1
 Smithsonian Institution
 Science Information Exchange: 33-0103-0-1-251

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u> <u>Package</u>	<u>Cumulative</u> <u>Total</u>
Budget authority (\$000)				
Federal support-Input processing	1972	1777	1615	1615
Outlays (\$000)				
Federal support-Input processing	1972	1777	1615	1615
Est. user revenues-Products & svcs (\$000)	1328	1226	1200	1200
Total employment (staff-years) <u>/1</u>	<u>111</u>	<u>100</u>	<u>90</u>	<u>90</u>
Federal support	76	68	60	60
User revenues	35	32	30	30
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Federal support				
Budget authority (\$000)	1615	1615	1615	1615
Outlays (\$000)	1615	1615	1615	1615

/1 Employees of the Science Information Exchange do not have Federal status.

Work that can be accomplished at this resource level:

With a budget of \$1,615,000 in FY 1979, SSIE will be able to process into its system information on the approximately 106,000 federally supported research projects it expects to receive, but will not be able to process information on any of the 25,000 non-federally supported research projects anticipated. Processing of the federal research information will only be possible, however, by extending the policy adopted in FY 1978 of excluding scientific review of indexing applied to descriptions of continuing research projects. The consequence of this policy is a reduction in the quality of SSIE's search products (1) through the introduction of a higher incidence of "noise," and (2) through a reduction in total recall. SSIE's experience has shown that revised project summaries normally require changes to 30 percent of the subject indexing applied to the project in the previous year. Without revised subject indexing in subsequent years, broader searching will be required and a higher degree of screening of retrieval output will be necessary. The Exchange would prefer not to continue this practice, particularly in view of its impact on the quality of the on-line file, but it is one which is unavoidable at minimum and current levels of federal support.

SSIE will be able to sustain only limited user education and product development efforts at the minimum resource level, and believes that the omission of non-federal research information from the file, combined with a reduced level of information product quality, will result in some decline in use. However, it is hoped that this decline can be partially compensated for through service support efforts with federal agencies which include the cost of processing non-federally supported research in areas of key interest.

Work that cannot be accomplished at this resource level:

Although able to sustain operations with respect to current levels of federal input registration, operation at the minimum resource level will preclude SSIE from making more than minimal progress in accomplishing its short-term goals in FY 1979. This is due to the fact that operational demands will require the application of nearly all available resources leaving little flexibility at the margin for planning, product development, and user education activities which might generate revenues beyond replacement value levels.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)				
Federal support-Input processing	1972	1777	40	1655
Outlays (\$000)				
Federal support-Input processing	1972	1777	40	1655
Est. user revenues-Products & svcs (\$000)	1328	1226	--	1200
Total employment (staff-years) ^{/1}	<u>111</u>	<u>100</u>	<u>--</u>	<u>90</u>
Federal support	76	68	--	60
User revenues	35	32	--	30
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Federal support				
Budget authority (\$000)	1655	1655	1655	1655
Outlays (\$000)	1655	1655	1655	1655

/1 Employees of the Science Information Exchange do not have Federal status.

Work that can be accomplished at this resource level:

Same as in minimum level package.

Work that cannot be accomplished at this resource level:

Same as in minimum level package.

DECISION PACKAGE 2000-3
 Smithsonian Institution
 Science Information Exchange: 33-0103-0-1-251

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)				
Federal support-Input processing	1972	1777	162	1817
Outlays (\$000)				
Federal support-Input processing	1972	1777	162	1817
Est. user revenues-Products & svcs (\$000)	1328	1226	100	1300
Total employment (staff-years) ^{/1}	<u>111</u>	<u>100</u>	<u>7</u>	<u>97</u>
Federal support	76	68	5	65
User revenues	35	32	2	32
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Federal support				
Budget authority (\$000)	1817	1817	1817	1817
Outlays (\$000)	1817	1817	1817	1817

/1 Employees of the Science Information Exchange do not have Federal status.

Work that can be accomplished at this resource level:

At this resource level, the Exchange will be able to include in its data base up to 10,000 of the 25,000 non-federally supported research projects it expects to receive in FY 1979, in addition to the 106,000 federal projects anticipated. This will nevertheless preclude SSIE from scientific review of project descriptions of continuing projects which carry revised project summaries. The incorporation of non-federal research information, however, will serve to improve the comprehensiveness of the data base over that possible at the minimum resource level. It will also enable SSIE to continue to attempt the broad-based coverage originally intended for it. SSIE will also be able to sustain a user education and product planning effort which should produce user revenues at slightly higher than replacement value.

Work that cannot be accomplished at this resource level:

As is true at the minimum resource level, only minor progress toward meeting SSIE's operational goals can be anticipated. Some product development effort is possible, but no resources will be available for innovations in either system technology or new product implementation, nor will SSIE be able to make progress in improving either the comprehensiveness or timeliness of its file.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This</u>	<u>Cumulative</u>
			<u>Package</u>	<u>Total</u>
Budget authority (\$000)				
Federal support-Input processing	1972	1777	316	2133
Outlays (\$000)				
Federal support-Input processing	1972	1777	316	2133
Est. user revenues-Products & svcs (\$000)	1328	1226	200	1500
Total employment (staff-years) ^{/1}	<u>111</u>	<u>100</u>	<u>18</u>	<u>115</u>
Federal support	76	68	13	78
User revenues	35	32	5	37
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Federal support				
Budget authority (\$000)	2133	2133	2133	2133
Outlays (\$000)	2133	2133	2133	2133

/1 Employees of the Science Information Exchange do not have Federal status.

Work that can be accomplished at this resource level:

Registration and processing of the balance of 15,000 project descriptions anticipated in FY 1979 without formal input solicitation efforts and in the absence of Executive or Legislative Branch actions to provide for comprehensive federal reporting (11 persons; \$240,000).

Design and implementation of revisions to SSIE's processes of scientific indexing in order to compensate for the loss of scientific review of continuations and, if feasible, to further reduce the costs of input processing without deterioration in retrieval quality (2 persons; \$76,000).

With improvements in the completeness and quality of the data base resulting from the above actions, SSIE anticipates that it will be able to increase user revenues beyond those which might otherwise be generated. This will result in the availability of resources for investment in user education and product development efforts which are expected to yield further increases in revenues in future years (5 persons; \$200,000).

Package 4 of 5 (cont.)

Work that cannot be accomplished at this resource level:

In spite of the improvements noted above, SSIE will be unable, at this level of resources, to provide for hard-wired, direct, federal agency access to the SSIE data base or to implement a program of research and development aimed at developing the existing potential of the SSIE data base as a resource for national science policy making. The data base itself, although vastly improved at this level over that of current level funding, will not be as comprehensive or as timely as SSIE would prefer to make it. Major investments in the development of product innovations will not be possible, but progress in this direction can nevertheless continue to be made through product improvements and improvements in the effectiveness of SSIE's user education activities.

DECISION PACKAGE 2000-5Smithsonian Institution

Science Information Exchange: 33-0103-0-1-251

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)				
Federal support-Input processing	1972	1777	725	2858
Outlays (\$000)				
Federal support-Input processing	1972	1777	725	2858
Est. user revenues-Products & svcs (\$000)	1328	1226	--	1500
Total employment (staff-years) ^{/1}	<u>111</u>	<u>100</u>	<u>13</u>	<u>128</u>
Federal support	<u>76</u>	<u>68</u>	<u>13</u>	<u>91</u>
User revenues	35	32	--	37
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Federal support				
Budget authority (\$000)	2858	2858	2858	2858
Outlays (\$000)	2858	2858	2858	2858

/1 Employees of the Science Information Exchange do not have Federal status.Work that can be accomplished at this resource level:

In addition to the improvements anticipated at improvement level 1, resources at this level will allow SSIE to achieve the following goals:

- (1) Design and implement a pilot program of direct on-line access to the SSIE data base (hard-wired) in which SSIE would provide for the installation of terminals, training of personnel, and development of selective, agency-specific data base improvements (e.g., addition of management data to agency project records). This program, which would be funded for a two-year period on a pilot basis would be designed to determine (a) whether this service can be shown to significantly improve agency utilization of SSIE data, (b) whether this improvement has a measurable impact in terms of scientific and management decision-making, (c) whether agency savings can be effected through effective utilization of SSIE as a research and management information resource, and (d) whether the costs of the service, including

full investment costs, can be recovered through its continued operation. It is estimated that support for FY 1979 development and implementation of this program will require 8 persons and cost \$500,000. This figure includes hardware costs and support services.

- (2) Establishment at SSIE of a formal research and planning group initially for the purpose of carrying out the research efforts necessary to resolve the methodological barriers which currently prevent the effective utilization of the SSIE data base as a science policy making resource. This group would also serve to provide technical support for long-range planning and development. Staffing at a level of 3 persons is envisioned at a cost of \$150,000. This figure includes consulting expenses and support services.
- (3) Establishment at SSIE, in the absence of Executive or Legislative Branch action to provide for comprehensive federal reporting to the Exchange, of an input liaison group whose objective would be to establish and maintain relationships with major sources of input to the Exchange in order to improve the completeness, timeliness, and quality of input. This effort would extend to both the federal and non-federal sectors, including universities, state governments, and, to the extent possible, industrial associations and institutes. It is expected that this effort will result in a major increase in the number of projects received for registration in 1980 which SSIE would hope to be able to absorb through application and continued development of the processing improvements provided for under improvement level 1 (2 persons; \$75,000).

DECISION UNIT OVERVIEW
Smithsonian Institution
Museum Programs and Related Research
(Special Foreign Currency Program): 33-0102-0-1-503
Decision Unit #3000

Long-range goal.

To continue the administration of a national grants program in excess foreign currencies that is responsive to the needs of the academic community, the Smithsonian, and the participating host countries.

Major objectives.

To support the increase and diffusion of knowledge by making available grants of excess foreign currencies to United States' institutions for research and advanced professional training, performed in collaboration with host country institutions, in the areas of archeology and related disciplines, systematic and environmental biology, astrophysics and earth sciences, and museum programs.

The Institution's first priority for the use of its foreign currency appropriation is the support of annual budgets for meritorious research which has received funding in previous years and in which work will be continuing in the current year. This ensures that the existing investment in the research will be preserved. Annual support for new proposals has second priority, since continuity in program funding is necessary to maintain the Smithsonian Program as a reliable source of support in the eyes of the academic community. Multi-year funding of approved projects has third priority. One-year funding is the general Program rule with all grantees until they have demonstrated by their performance in the first year of work that multi-year funding is merited. Multi-year funding then can offer the special benefit of ensuring funds for the maintenance of a successful research team in succeeding seasons.

Alternatives.

Alternatives to the current grants program format in which Smithsonian employees compete with their peers include:

1. Continued national competition for grant awards with a specified limitation on the total amount which might be awarded Smithsonian applicants.
2. A request for two separate foreign currency appropriations--one limited to participants from other institutions and one available solely for Smithsonian employees.

3. Designation of a specific dollar total in the Special Foreign Currency Program appropriation to be awarded to Smithsonian employees on the basis of in-house competition.

The Smithsonian recommends the continuance of FY 1977 program procedures by which grants are awarded to United States' institutions, including the Smithsonian, on the basis of national peer competition and review, without pre-determined limitations. This alternative, which sets no artificial constraints on funding applications from any specified source, is recommended after renewed and meticulous review of program procedures, because it ensures that only the most meritorious proposals will be funded. Moreover, peer review provides objective, sound critiques of research and contributes to the maintenance of high research standards and performance at the Institution.

Accomplishments.

The Smithsonian Foreign Currency Program is unique among such programs because it alone consistently supports the work abroad of United States institutions with research results comparable to the best in the United States. The Smithsonian Program strengthens the research and training activities of collaborating institutions abroad as well, because most projects directly involve host country institutions and scholars. Enduring professional ties which result from such joint efforts and scholarly exchange contribute to the strongest form of U.S. cultural relations with other nations. Examples of recent accomplishments of Foreign Currency projects include:

- The publication in English of literary works of Egypt and other Arabic-speaking countries which have evolved from the impact of modern Western thought. These translations, the most characteristic and best specimens of Arabic literature today, will be made available for the first time to the English-speaking world.
- The documentation on film and the translation of the Kutiyattam Sanskrit drama, preserving a traditional religious art form surviving from the 9th century and making it available to world scholarship for the first time.
- The completion of a comprehensive study of the conservation and restoration methods applied to historic monuments and sites in Poland, an acknowledged world leader in this field of cultural expertise. Recommendations will be developed for application of these methods to American historic preservation problems.
- The discovery of 45 million year old fossils of small rodents and primates in Pakistan similar to species found in South America indicating that the South Asian subcontinent and South America were connected at that time, allowing for the migration of these species between the two areas.

In FY 1978, the Foreign Currency Program currently anticipates making 48 grants to 30 institutions in 25 states and the District of Columbia. Of these, 38 will be for current projects and 10 for new projects.

DECISION PACKAGE 3000-1
 Smithsonian Institution
 Museum Programs and Related Research
 (Special Foreign Currency Program): 33-0102-0-1-503

Activity description.

Only continuing research projects funded in FY 1978 will be supported.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>		
			<u>This Package</u>	<u>Cumulative Total</u>	
Budget authority (\$000)	3,481 ^{/1}	4,000 ^{/1}	2,800	2,800	
Outlays (\$000)	3,421	3,894	3,831	3,831	
Employment					
Full-time permanent	--	--	--	--	
Total	--	--	--	--	
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	2,800	2,800	2,800	2,800	2,800
Outlays (\$000)	3,831	3,115	2,850	2,807	

Short-term objective.

--Provide continued funding required by some 42 projects which received funding in FY 1978.

Impact on major objectives.

--Current projects requiring funding in FY 1979 would be allowed to continue, without interruption.

--No new projects could be funded at this level.

--No multi-year funding of projects could be provided.

^{/1} FY 1977 and FY 1978 amounts include the third and fourth of four annual payments, each of \$1,000,000 equivalent in excess Egyptian pounds, which together constitute the United States contribution to the project to save the Temples of Philae.

Package 2 of 3 (current level)

DECISION PACKAGE 3000-2
Smithsonian Institution
Museum Programs and Related Research
(Special Foreign Currency Program): 33-0102-0-1-503

Activity description.

Additional resources will allow funding of a limited number of new proposals.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>		
			<u>This Package</u>	<u>Cumulative Total</u>	
Budget authority (\$000)	3,481	4,000	200	3,000	
Outlays (\$000)	3,421	3,894	152	3,983	
Employment					
Full-time permanent	--	--	--	--	
Total	--	--	--	--	
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	3,000	3,000	3,000	3,000	3,000
Outlays (\$000)	3,983	3,260	3,086	3,026	3,008

Short-term objective.

--Some \$200,000 equivalent in new projects will be funded.

Impact on major objectives.

--Valuable support to the academic community would be available.

--No multi-year funding of projects could be provided.

Package 3 of 3 (improvement level)

DECISION PACKAGE 3000-3
Smithsonian Institution
Museum Programs and Related Research
(Special Foreign Currency Program): 33-0102-0-1-503

Activity description.

Additional new projects will be supported and projects for which the assurance of funding continuity is important will be considered for multi-year funding.

Resource requirements.	1977	1978	1979		
			This Package	Cumulative Total	
Budget authority (\$000)	3,481	4,000	700	3,700	
Outlays (\$000)	3,421	3,894	169	4,152	
Employment					
Full-time permanent	--	--	--	--	
Total	--	--	--	--	
Five-year projections	1979	1980	1981	1982	1983
Budget authority (\$000)	3,700	3,700	3,700	3,700	3,700
Outlays (\$000)	4,152	3,850	3,750	3,720	3,706

Short-term objectives.

--An additional \$200,000 equivalent in new projects can be funded.

--Some \$500,000 equivalent will be available for current projects deemed worthy of multi-year funding.

Impact on major objectives.

--Funding at this level would ensure United States institutions continuing access to these excess foreign currencies for support of valuable scientific and cultural research.

DECISION UNIT OVERVIEW

Smithsonian Institution

Construction: 33- $\left. \begin{array}{l} 0129 \\ 0132 \\ 0133 \end{array} \right\}$ -0-1-503

Decision Unit #4000

Long-range goal.

To provide and maintain a physical plant containing adequate and secure space for the proper housing, display, care, and study of the National Collections with special emphasis directed to providing appropriate off-Mall facilities for collections management, conservation, and research.

To construct, improve, and repair facilities at permanent Smithsonian research sites.

Major objectives.

1. To construct facilities that will provide urgently needed additional space off-Mall and will correct the present inadequate space conditions in Mall museums created by the expansion of public service activities and the necessary growth of collections. A priority in FY 1979 and 1980 is the design and construction of a Museum Support Center, for which planning authorization was provided by P.L. 94-98. This Center, which will provide 338,000 square feet of office, storage, laboratory, and conservation space, will restore a significant amount of Mall building space to public use. This will meet the Institution's most pressing needs for collections storage, collections management, conservation, documentation, research, training, and publications. The total project cost is estimated to be \$21,500,000. Of this amount, \$325,000 has been approved by Congress for planning purposes in FY 1978.
2. To implement the Zoo Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973.
3. To ensure by performance of the following activities the efficient, economical, and safe operation of a physical plant containing over 3.0 million net usable square feet, with buildings ranging in age from new to well over 100 years in age and having a replacement value of several hundred million dollars:
 - Major repairs and alterations, generally of a long-term nature and benefit to the Institution, which are beyond the capability of the Institution's maintenance staff.
 - Correction of hazardous conditions.
 - Modifications to eliminate or mitigate existing architectural barriers which impede the access of

handicapped persons to Smithsonian facilities.

--Improvement of fire detection and control capabilities.

4. To construct or modify facilities to support the accomplishment of program objectives.

Alternatives.

1. Provide no additional space. This alternative would seriously impair and disrupt planned and current organized collection programs and activities of the Institution which are fundamental to its research, exhibition, and educational missions. Increased use of existing public exhibition space in the Mall museums for collections storage and conservation functions would be necessary. The placing of additional constraints on new collecting and the necessary purge of existing collections would ultimately lead to the stultification of systematic research and the possible reduction of scientific disciplines now covered by the Museum of Natural History. Furthermore, the denser storage of collections would result in greater inaccessibility and would present possible safety hazards from floor overloading or excessive storage heights.
2. Increase rental space. This approach would be costly on a long-term basis and would not allow for the development of equity. Scattered space locations would add problems of logistical support, protection, and research accessibility and would necessitate duplication of staffing and associated laboratory and other support spaces. Moreover, extensive modifications would most likely be required to adapt such space for the unique space and environmental needs associated with collections storage, conservation and research.
3. There is no apparent alternative to performing necessary repairs and improvements to Smithsonian facilities. Failure to maintain properly and repair the physical plant will endanger the well-being of the collections as well as the visiting public, will result in costly operating inefficiencies as building systems (such as, electrical and lighting, plumbing, heating, ventilating, and air conditioning) cease to function properly, and will contribute to a gradual degradation in the appearance of the buildings.
4. Regarding the performance of the work, there are two alternatives: 1) to accomplish the work entirely by contract, and 2) to use Smithsonian labor to perform all or certain aspects of the work. Most construction and improvement projects are accomplished by contract, except in instances when suitable contractors cannot be located or their estimates are exorbitant in relation to the proposed job. In such cases, the construction accounts are used to purchase supplies, materials, and equipment while the work is performed by Smithsonian staff or temporary labor.

Accomplishments.

A site suitable for the Museum Support Center has been assembled adjacent to the Institution's current preservation and restoration facility at Suitland, Maryland, six and one-half miles from the Mall. To date, 59 acres have been transferred to the Institution by GSA, and it is anticipated that an additional 23 acres will be transferred early in fiscal 1978 to complete the assembly. By the end of FY 1978, planning efforts will have advanced through the first phase of design. This will include identification and selection of architectural/engineering support, site planning, development of utility and other major system requirements, preliminary designs, and preparation of a construction budget.

A study of museum collections policy and management practices which included an examination of matters affecting space utilization and future requirements was completed in September 1977.

The National Zoo's Rock Creek facilities, which have been undergoing major renovation since 1974 in accordance with the Master Plan, are nearing the halfway mark in conversion from archaic facilities into modern and healthful housing for the valuable animals with educational and enjoyable surroundings for visitors. The schedule of work through FY 1978 anticipates that:

- The first phase of the General Services and Parking facility and new exhibits for grizzly and polar bears will be completed by the end of 1977.
- Construction in the Beaver Valley Area, including exhibits for beavers, otters, seals and sea lions, and others will be complete in May 1978.
- By September 1978, improvement of existing aquatic bird facilities and provision of new facilities for climbing cats will be finished. The design for Central Area exhibits will be 100 percent complete, and the Central Area will be cleared and prepared for the anticipated construction of the Great Ape House in October 1979.

Major repairs and improvements at the National Zoological Park include a new necropsy facility and an animal holding and quarantine facility in Rock Creek Park and a new perimeter fence which will be installed at Front Royal during FY 1978.

During FY 1977, detailed analyses of damage to the Renwick Gallery Building exterior and the History and Technology Building terrace have been completed. The most critical areas of repair will be underway in FY 1978, with the work continuing on both buildings for several years.

Installation of building equipment monitoring systems, which permit the computerized monitoring and analysis of the various mechanical equipment in buildings located on the Mall, the Renwick Gallery, and the Fine Arts and Portrait Galleries Building, will be 50 percent operational by the end of FY 1978.

In preparation for replacement of the Arts and Industries Building roof, a system to protect the building's interior, contents, and occupants has been designed and will be installed by October 1978. By the conclusion of FY 1978, roof replacement is anticipated to be 70 percent complete.

During FY 1977 the following projects have been accomplished as part of the annual program to improve fire detection and suppression systems within Institution facilities: 1) major water and pumping systems were installed in the Natural History Building; 2) detection and suppression systems were installed in all buildings as new exhibit areas were developed; and 3) sprinkler systems were expanded in the History and Technology Building and the Smithsonian Institution Building. Projects of a similar nature will be pursued in FY 1978.

Work to be underway or completed in FY 1978 which will improve access to Smithsonian facilities for handicapped persons and provide increased emergency exit capability as needed include modifications to the entrance doors of the History and Technology Building, the Fine Arts and Portrait Galleries Building courtyard, the Natural History Building, and the Hirshhorn Museum Sculpture Garden.

DECISION PACKAGE 4000-1
Smithsonian Institution

Construction: 33- $\left\{ \begin{array}{l} 0129 \\ 0132 \\ 0133 \end{array} \right\}$ -0-1-503

Activity description.

Repairs and improvements required to maintain the physical plant, including roadways and walks in a safe and operative condition, to correct structural and building system deficiencies, and to maintain the weather-tight integrity of the facilities. Architectural planning for the Museum Support Center will be completed.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)	9,530	5,250	3,125	3,125
Outlays (\$000)	12,403	13,985	4,977	4,977
Employment				
Full-time permanent	--	--	--	--
Total	--	--	--	--
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	3,125	22,990	2,190	2,190
Outlays (\$000)	4,977	8,796	6,750	2,150

Short-term objectives.

- Ensure basic facility operation.
- Continue phased correction of structural and building system deficiencies.
- Complete design of Museum Support Center.
- Perform necessary facade and roof repairs to maintain facilities in a weathertight condition.

Impact on major objectives.

- The physical plant will be maintained at a level necessary to sustain current program activity and to prevent further damage or deterioration of facilities and equipment.
- Architectural planning for a Museum Support Center necessary to correct existing crowded and inadequate space conditions can be completed.
- While certain phased projects will continue, no new construction will be initiated in support of program objectives.
- No improvements will be made in the areas of fire detection and control, upgrading of hazardous conditions, and the elimination of barriers which inhibit access by handicapped individuals.
- Implementation of the Zoo Master Plan will not be able to continue.

Other information.

- It is anticipated that all projects not funded at this level, or at succeeding levels, will be severely affected by the future impact of inflation.
- Based on specific operating experiences in the Mall museums, it is estimated that the Museum Support Center will cost approximately \$1.7 million in annual operating expenses. This includes 68 positions at a cost of \$1.0 million and \$700,000 for materials, maintenance, repairs, and utilities.
- The following projects will be funded at this level:

National Zoological Park, Construction and Improvements: \$600

Repairs and Renovations:

\$300 Rock Creek Park

\$300 Front Royal Conservation Center

Restoration and Renovation of Buildings: \$1,950

\$1,000 General Repairs and Improvements

\$590 Facade and Roof Repairs

Package 1 of 4 (cont.)

Phased Projects:

\$250 Museum of History and Technology Terrace Repairs

\$50 Building Monitoring System

\$60 Mount Hopkins Observatory Water Supply System

Museum Support Center Planning:

\$575

DECISION PACKAGE 4000-2
Smithsonian Institution

Construction: 33- $\left. \begin{matrix} (0129) \\ (0132) \\ (0133) \end{matrix} \right\}$ -0-1-503

Activity description.

Additional resources will be applied to the installation of fire detection and control systems, improvements for handicapped persons, correction of hazardous conditions, and building modifications designed to improve health care facilities for the animal collections.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)	9,530	5,250	1,225	4,350
Outlays (\$000)	12,403	13,985	900	5,877
Employment				
Full-time permanent	--	--	--	--
Total	--	--	--	--
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
				<u>1983</u>
Budget authority (\$000)	4,350	24,215	3,415	3,415
Outlays (\$000)	5,877	10,671	7,800	3,200

Short-term objectives.

- Install smoke detectors, fire doors, and sprinklers as part of a phased effort to upgrade fire detection and control systems throughout Smithsonian facilities.
- Improve accesss for the handicapped.
- Eliminate hazardous conditions imposed by inadequate alcohol storage facilities in the Museum of Natural History and unsafe buildings at the Front Royal Conservation Center.

- Improve health care facilities for the animal collections by modification of the hospital in Rock Creek Park and renovation of a building at Front Royal for use as a veterinary clinic.

Impact on major objectives.

- Continued progress can be made in the effort to ensure the safety and welfare of the visiting public and the National Collections, including those of the National Zoological Park.
- Implementation of the Zoo Master Plan will not be continued.
- New construction in support of program objectives will be limited to projects important to the safety of the collections.

Other information.

The following projects will be funded at this level:

Restoration and Renovation of Buildings: \$825

\$500 Fire detection

\$325 Handicapped and hazardous conditions

National Zoological Park, Construction and Improvements: \$400

\$200 Rock Creek Park

\$200 Front Royal Conservation Center

DECISION PACKAGE 4000-3
Smithsonian Institution

Construction: 33- $\left. \begin{matrix} 0129 \\ 0132 \\ 0133 \end{matrix} \right\}$ -0-1-503

Activity description.

Additional resources will be used to continue road improvements at the multi-mirror telescope site at the Mt. Hopkins Observatory and to continue approved Master Plan development of the National Zoological Park.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>	
			<u>This Package</u>	<u>Cumulative Total</u>
Budget authority (\$000)	9,530	5,250	3,125	7,475
Outlays (\$000)	12,403	13,985	1,600	7,477
Employment				
Full-time permanent	--	--	--	--
Total	--	--	--	--
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
				<u>1983</u>
Budget authority (\$000)	7,475	32,240	15,540	19,540
Outlays (\$000)	7,477	15,771	20,100	21,300
				17,300

Short-term objectives.

- Improvement of the access road to observatory sites on Mount Hopkins to correct unsafe conditions.
- Construction at the National Zoological Park of a modern facility for orangutans and gorillas, the most heavily visited primates and at present the most inadequately housed animals at the Zoo.

Impact on major objectives.

- Implementation of the Zoo Master Plan will continue with construction of the Great Ape House.

Other information.

- The current level amount proposed for Construction exceeds the FY 1978 appropriated amount by some \$2.2 million. This increase at the current level is necessary to accommodate those projects which are essential to basic facility operation and maintenance as well as those phased repair and construction projects which have been reviewed and funded by the Office of Management and Budget in previous years. Chief among these projects is construction of the Great Ape House, the proposed next phase of the Master Plan development of the National Zoological Park. The constantly varying levels of funding required for Zoo Master Plan Development and similar long-term, phased construction efforts make adherence to a specifically defined amount at the current level inappropriate.
- The proposed road improvements at the Mt. Hopkins Observatory are part of a phased road improvement program. The proposed project will extend paving of the access road to the 7,600 foot elevation ridge where a number of observing instruments are located. This improvement will reduce the dust problem and its effect on sensitive optical surfaces, will increase road safety (currently hazardous) and will decrease the costs of road maintenance.
- Operating expenses for the new Great Ape House at the National Zoological Park are estimated to total approximately \$140,000 a year. This includes 3 positions at a cost of some \$40,000 and \$100,000 for utilities, parts and materials. A solar energy system, incorporated into the building design, is expected to offset water heating expenses by 80 percent.
- The following projects will be funded at this level:

<u>National Zoological Park, Construction and Improvements:</u>	\$3,000
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\$3,000 Great Ape House	
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<u>Restoration and Renovation of Buildings:</u>	\$125
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\$125 Mt. Hopkins Observatory Road	
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DECISION PACKAGE 4000-4

Smithsonian Institution

Construction: 33- $\left\{ \begin{array}{l} 0129 \\ 0132 \\ 0133 \end{array} \right\}$ -0-1-503Activity description.

Additional resources will permit provision of an auxiliary air conditioning system for the Freer Gallery of Art and the upgrading of facilities in support of scientific research efforts. In addition, needed improvements will be made at Silver Hill facilities to correct deficiencies in temperature and humidity control systems, building insulation, and the sanitary and storm sewer system.

Resource requirements.

	<u>1977</u>	<u>1978</u>	<u>1979</u>		
			<u>This Package</u>	<u>Cumulative Total</u>	
Budget authority (\$000)	9,530	5,250	995	8,470	
Outlays (\$000)	12,403	13,985	600	8,077	
Employment					
Full-time permanent	--	--	--	--	
Total	--	--	--	--	
Five-year projections	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Budget authority (\$000)	8,470	33,235	16,535	20,535	10,535
Outlays (\$000)	8,077	16,371	20,700	21,900	17,900

Short-term objectives.

- Construct needed laboratory, storage, and dormitory facilities at Smithsonian research sites.
- Provide improvements at Silver Hill facilities to correct deficiencies in the temperature and humidity control systems, building insulation, the sanitary and storm sewer system.
- Provide an auxiliary air conditioning system for the Freer Gallery of Art to ensure the maintenance of proper environmental conditions essential to the preservation of valuable collections.

Impact on major objectives.

- At this level, progress will be made toward achieving all major objectives.

Other information.

The following projects will be funded at this level:

Restoration and Renovation of Buildings:

\$995

- \$225 Auxiliary air conditioning system for the Freer Gallery of Art
- \$400 Silver Hill improvements including building insulation, temperature and humidity control, and a sanitary and storm sewer
- \$125 Tropical Research Institute dormitory to replace the badly deteriorated facility now used by scientists conducting research on Barro Colorado Island. The present facility is unsuitable for extended visitation necessary for many research projects
- \$170 Chesapeake Bay Center--renovation of existing covered shed to serve as a shop area for maintenance activities of the Center
- \$75 Mt. Hopkins Observatory Annex to connect the building housing the 1.5-m telescope and the 0.6-m telescope and to provide additional laboratory and storage space



SMITHSONIAN INSTITUTION
Relationship of Decision Units to Account Structure
(In thousands of dollars)

	<u>1979 Estimate</u>	
<u>Decision Units by Bureau and Account</u>	<u>B.A.</u>	<u>Outlays</u>
Salaries and Expenses (33-0100-0-1-503):		
Salaries and Expenses (1000)	92,648	91,870
Museum Programs and Related Research (Special Foreign Currency Program)--(33-0102-0-1-503):		
Special Foreign Currency Program (3000)	3,700	4,152
Science Information Exchange (33-0103-0-1-251):		
Science Information Exchange (2000)	2,858	2,858
Construction and Improvements, National Zoological Park (33-0102-0-1-503) Restoration and Renovation of Buildings (33-0132-0-1-503) Construction (33-0133-0-1-503):		
Construction (4000)	8,470	8,077

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